

200-12



A.B.C. PORTABLE HEATING UNITS

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Superseding No 17 Series 9

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AMERICAN BLOWER COMPANY
DETROIT, MICHIGAN

PORTABLE HEATING UNITS

Application

THERE are various considerations which influence the selection of a Unit Heater as the logical apparatus for economically heating and ventilating certain types of buildings.

In modern industrial plants in which overhead shafting with group drive,

traveling cranes and modern lighting arrangements are used, it is frequently necessary to dispense with overhead air distributing ducts. Such a situation is best met by the installation of "A B C" Portable Heating Units. For garages, foundries, warehouses, and other types of structures these units will often be the most desirable method of heating.

Advantages

THE elimination of distributing ducts effects a material saving in the first cost of the installation. This also results in a saving in the power required, in that it is not necessary to operate the fans at the high pressure necessary to convey the air to a considerable distance through the air ducts.

Additions to buildings, changes in location of machinery or manufacturing processes may make necessary changes of the heating arrangements. The ease with which these units may be moved and reinstalled to comply with the changed heating requirements, and the fact that no special foundations are needed, are distinct conveniences and savings.

The compactness of "ABC"

Portable Heating Units and the opportunity of placing them in positions not necessary for manufactur-



Front view of
Size 15 D "A B C"
Heating Unit

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ing operations make it possible to utilize the floor space of a plant to a maximum degree.

The illustrations give a clear idea of the neat appearance and compactness of these units.

Uses

"A B C" Portable Heating Units may be applied broadly to heating, ventilating, and drying systems.

They are particularly adapted to the heating of factories, machine shops, foundries, garages, paper mills, textile mills, wood-working shops, warehouses and industrial buildings generally; and are valuable for supplementing existing systems which do not properly heat certain portions of the buildings in which they are installed.

They provide a simple and efficient means of moisture absorption in paper mills.

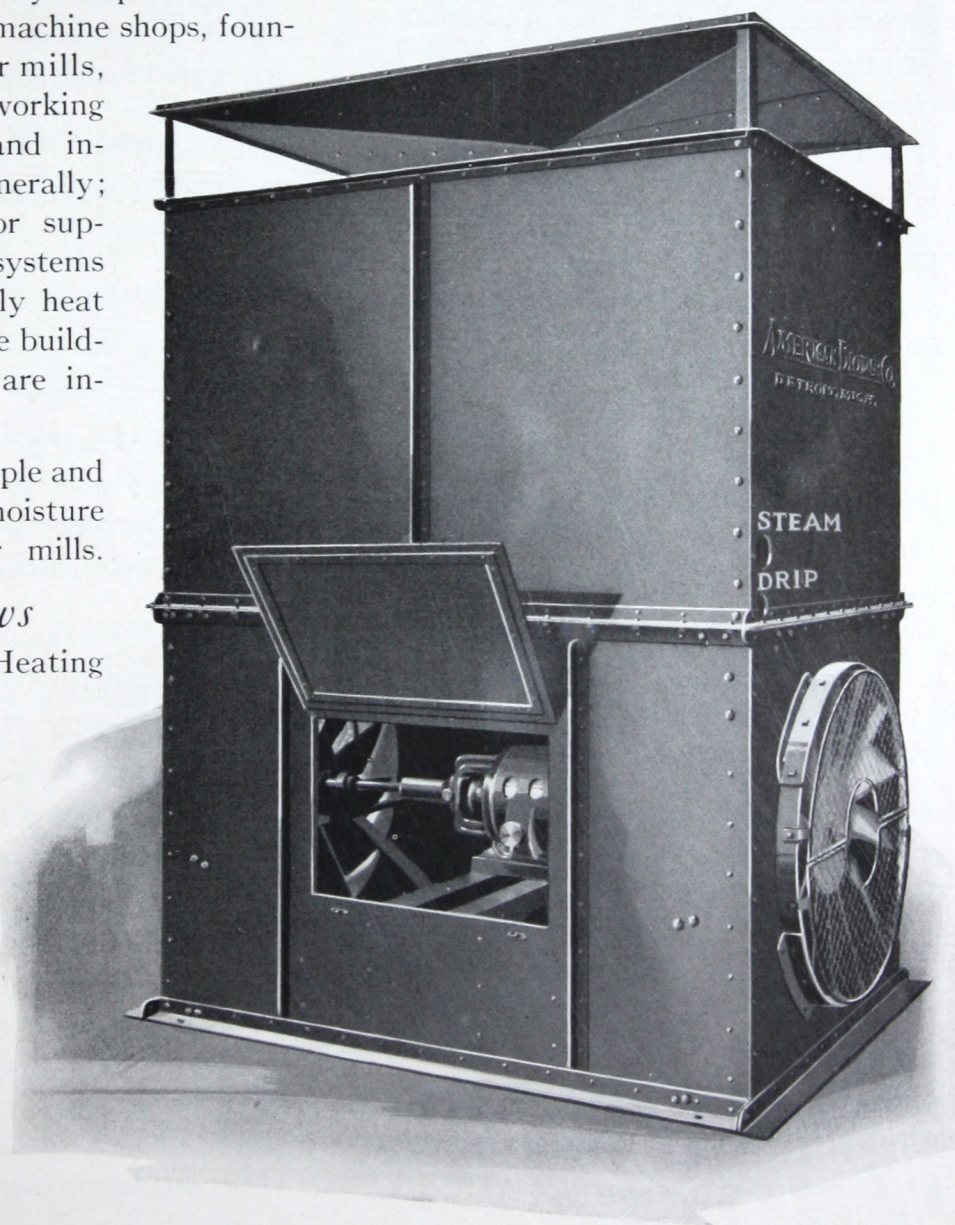
Natural Laws

"A B C" Portable Heating Units utilize to the fullest extent the natural law of gravitation. The air near the floor is cooler than the air above it, and it is

this lower and therefore cooler air that passes into the fans. The air is forced through the heated coils, thus being warmed, and is discharged back into the room in a horizontal direction.

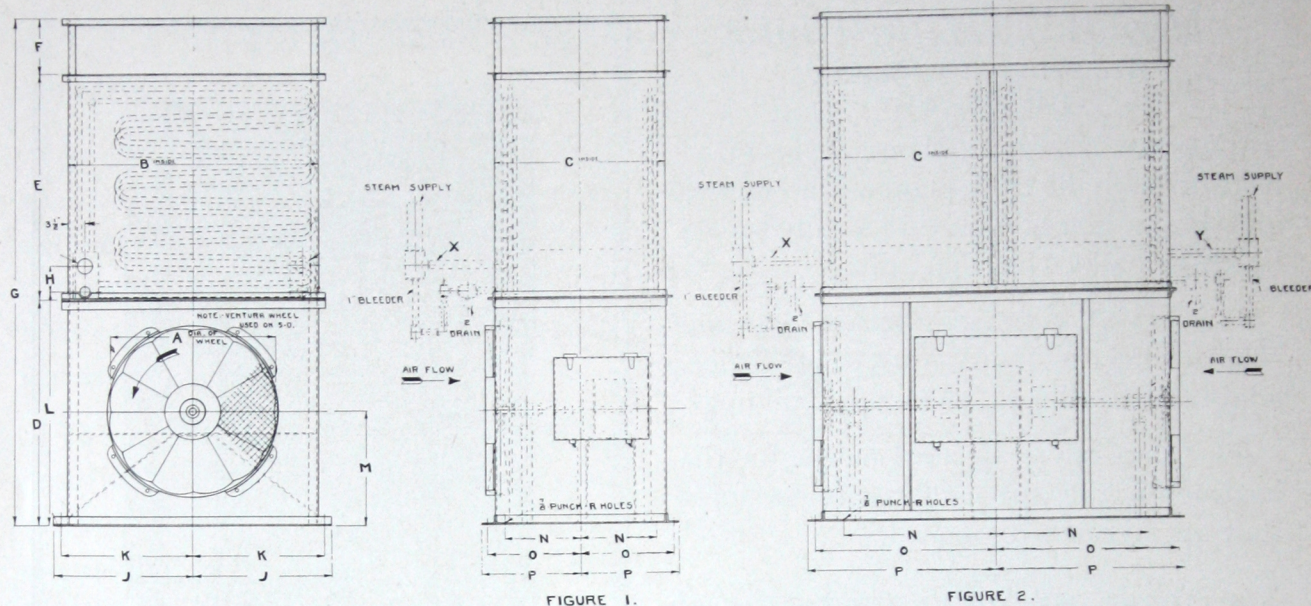
The warm air then begins to give up its heat, causing it to fall slowly, by gravity, to the floor line.

This movement is all but imperceptible, but will continue until the air has lost



Rear view of
Size 15 D "A B C"
Heating Unit

PORTABLE HEATING UNITS



General Dimensions In Inches

No.	Fig.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	X	Y
5D...	1	32	43½	39¼	45	48	12	105	5 9/16	24 13/16	23½	46 9/16	22½	17	21 3/8	22 11/16	6	2
7½D	1	36	53	36	48	48	12	108	5 9/16	29 9/16	28¼	49 9/16	24	16	19 3/4	21 1/16	6	2½
10D...	1	42	53	54	48	48	12	108	5 9/16	29 9/16	28¼	49 9/16	24	24	28 3/4	30 1/16	6	3
15D...	2	36	53	73	48	48	12	108	5 9/16	29 9/16	28¼	49 9/16	24	32	38¼	39 9/16	6	2½	2½
20D...	2	42	53	107	48	48	12	108	5 9/16	29 9/16	28¼	49 9/16	24	48	55¼	56 9/16	8	3	3

Dimensions are approximate only and should not be used for installation purposes. Certified drawing will be furnished upon request. All steam tappings in header are 3" but may be bushed to sizes shown in X and Y in above table. All drip tappings are 2".

General Data and Capacities

Size	Cu. Ft. per Min.	Approximate R.P.M.	H. P. Motor	Lineal Feet ¾" Pipe	B. T. U. Per Hour		Shipping Wg't Comp.		Weight Coil Only
					5 lb. Steam	60 lb. Steam	Polyphase AC	DC	
5D	5,000	690	1	850	300,000	450,000	2,160 lbs.	2,190	1,230
7½D	7,500	690	2	1,070	450,000	675,000	2,690	2,725	1,480
10D	10,000	570	2	1,620	600,000	900,000	3,560	3,605	2,120
15D	15,000	690	3	2,140	900,000	1,300,000	4,730	4,775	2,960
20D	20,000	570	5	3,240	1,200,000	1,800,000	6,560	6,625	4,240



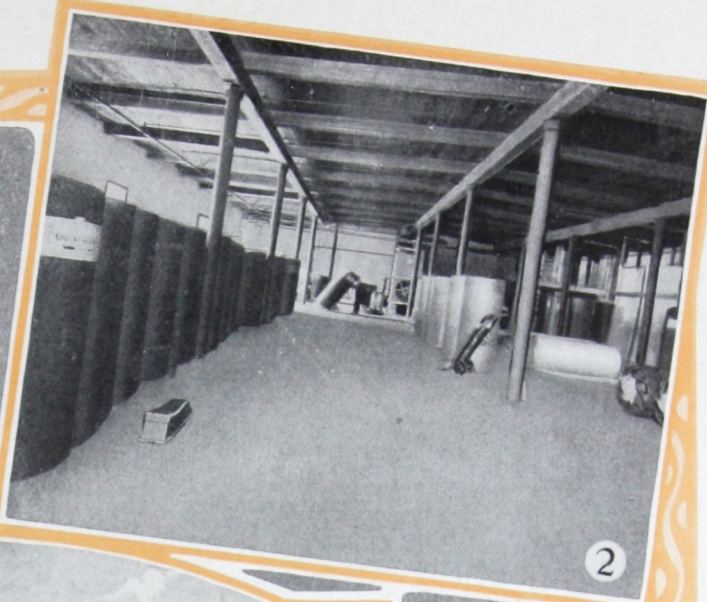
No. 2 Unit

Size	Height	Width	Depth	Fan Speed	Motor H. P.	Steam Pressure	B. T. U. Per Hour	Weight With Polyphase Motor	Weight With DC Motor
2D	111"	27"	29¼"	1150	¾	5 lb.	120,000	1,100	1,135

The heating effect increases with higher steam pressures in proportion to the difference between the temperature of the steam and the temperature of the entering air. For example: The capacity with 60-pound pressure is 180,000 B. T. U. per hour.



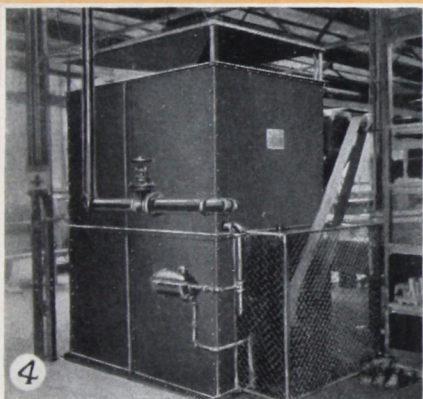
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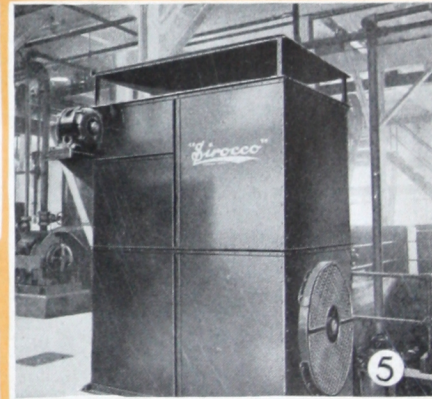


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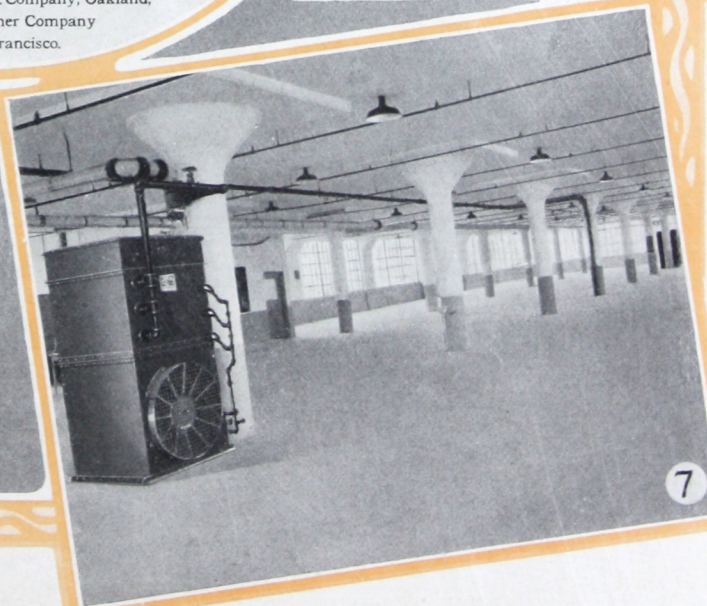
1. Homewood Plant, Westinghouse Electric & Manufacturing Co., Pittsburgh. Unit Heaters installed in this plant by Baker, Smith & Company.
2. Union Bag & Paper Corporation, Hudson Falls, N. Y., Unit Heater Installation in stock room.
3. Homewood Plant, Westinghouse Electric & Mfg. Co., Pittsburgh.
4. One of four installations at the Trailmobile Company, Cincinnati, Ohio. Installed by the Austin Company of Cleveland, Ohio.
5. Interior of St. Maurice Lumber Company, Three Rivers, Quebec, showing Unit Heater Installations.
6. One of the nine Unit Heaters installed at the Crescent China Company of Alliance, Ohio.
7. Two of twelve unit heaters installed at the Westinghouse Electric & Mfg. Company, Oakland, Calif., by Turner Company of San Francisco.



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PORTABLE HEATING UNITS

part of its heat and has reached the same temperature as the air adjacent to it.

As the fans are continually removing the cooler air on the floor, this downward and outward movement of the warm air is therefore complete within the limits of the heat capacity of the outfit, and the room is warmed as desired.

The low velocity of the air movement prevents drafts, or air blasts, and does not agitate or carry dust. It gives the ideal circulation to maintain comfortable and healthful working conditions.

A complete cycle of air circulation is maintained, the working level being kept warm, and the heated air does not stagnate in the upper parts of the building.

In moderate weather, the fans need not be operated at all, as the coils will heat the air sufficiently to cause warm air circulation and equal heating throughout the room.

Description

EACH unit consists of a fan chamber below the coils, one or two fans according to size and design, a heater of pipe coils set staggered and bent cold in one continuous pipe between cast-iron steam and return headers.

All of these parts are enclosed from the floor to the air outlets in heavy sheet iron casings attached to a substantial structural frame and made easily removable for access to the heater.

The corner angles support a top correctly designed to give proper direction to the flow of warm air being discharged into the room.

The heater coils are made of specially treated pipe, bent to a form which allows for perfect drainage of condensation, and for expansion and contraction.

The pipes are screwed into the cast-iron manifolds, the two rows being staggered for more effective heating.

Tappings in the end of each cast-iron manifold provide for supply and drip connections.

The resistance through the unit is low, permitting the passage of air with a minimum power requirement; in fact, it is possible to heat satisfactorily for extended periods without operating the fans at all, the unit working by gravity, thus further reducing operation costs.

Exhaust steam, or live steam up to 100 pounds pressure may be used, the heating effect increasing with higher steam pressures in proportion to the difference between the temperature of the steam and the temperature of the entering air.

Motors for operating the fans are placed inside the fan chambers, readily accessible by means of doors in the casings, and are direct-coupled to fan shafts.

The standard outlet is of the apron type, as illustrated.

PORTABLE HEATING UNITS

Here Is a Smaller Unit

Requiring a Minimum
of Floor Space

THERE are many problems of localized heating in industrial plants, warehouses and similar places which are ideally solved by this smaller Heating Unit.

It is a very compact, strong, neat and efficient heating and ventilating device, adaptable to all types of factory buildings.

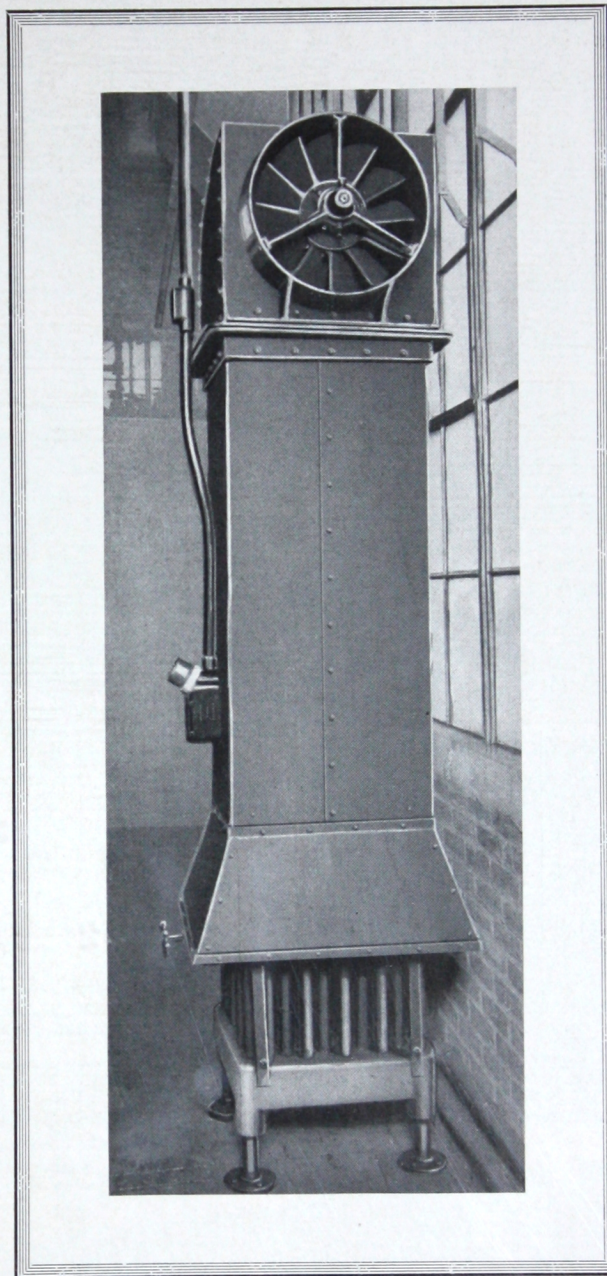
This unit offers an ideal means for the heating of the space adjacent to doors that are frequently opened.

*The Sturdy and Simple Construction of
This Heating Unit Will Imme-
diately Appeal to Every User*

The cast-iron base is supported by four legs with broad feet resting on the floor. Into the top of this base is screwed a nest of steam pipes which are built up in return loops, thus insuring perfect circulation of the steam and overcoming any tendency to air binding. These pipes are encased by a heavy jacket with a flaring apron at the bottom.

The disc fan at the top is supported by a cast-iron spider. In the standard unit the fan is driven by a direct connected motor. It can, however, be arranged for belt drive or direct connected turbine drive.

Each unit has a capacity of 120,000 B. T. U. per hour with steam at five pounds pressure at the heater. The heating effect increases with higher steam pressures in proportion to the difference between the temperature of the steam and the temperature of the entering air. For example: The capacity with 60-pound pressure is 180,000 B. T. U. per hour.



Size 2 D—a smaller "ABC"
Heating Unit—installed. Note
the little floor space required.

General Data

Size	Height	Width	Depth	Fan Speed	Motor H. P.
2D	111"	27"	29 1/4"	1150	3/4

PORTABLE HEATING UNITS

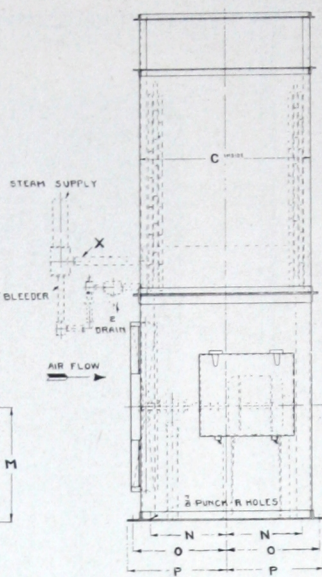
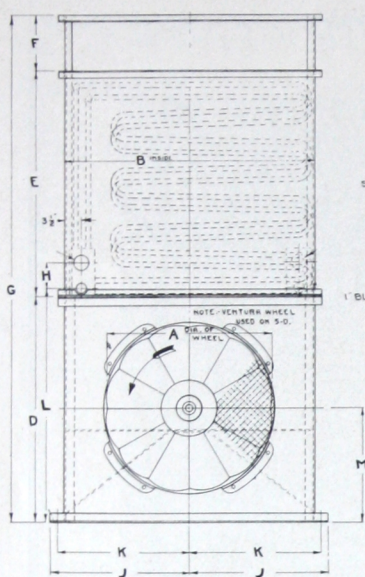


FIGURE 1.

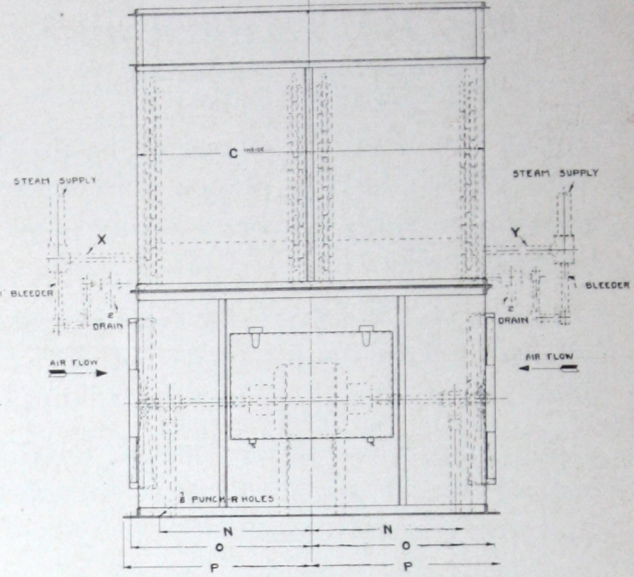


FIGURE 2.

General Dimensions In Inches

No.	Fig.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	X	Y
5D...	1	32	43 $\frac{1}{2}$	39 $\frac{1}{4}$	45	48	12	105	5 $\frac{9}{16}$	24 $\frac{13}{16}$	23 $\frac{1}{2}$	46 $\frac{9}{16}$	22 $\frac{1}{2}$	17	21 $\frac{3}{8}$	22 $\frac{11}{16}$	6	2
7 $\frac{1}{2}$ D	1	36	53	36	48	48	12	108	5 $\frac{1}{16}$	29 $\frac{9}{16}$	28 $\frac{1}{4}$	49 $\frac{9}{16}$	24	16	19 $\frac{3}{4}$	21 $\frac{1}{16}$	6	2 $\frac{1}{2}$
10D...	1	42	53	54	48	48	12	108	5 $\frac{1}{16}$	29 $\frac{9}{16}$	28 $\frac{1}{4}$	49 $\frac{9}{16}$	24	24	28 $\frac{3}{4}$	30 $\frac{1}{16}$	6	3
15D...	2	36	53	73	48	48	12	108	5 $\frac{9}{16}$	29 $\frac{9}{16}$	28 $\frac{1}{4}$	49 $\frac{9}{16}$	24	32	38 $\frac{1}{4}$	39 $\frac{9}{16}$	6	2 $\frac{1}{2}$	2 $\frac{1}{2}$
20D...	2	42	53	107	48	48	12	108	5 $\frac{9}{16}$	29 $\frac{9}{16}$	28 $\frac{1}{4}$	49 $\frac{9}{16}$	24	48	55 $\frac{1}{4}$	56 $\frac{9}{16}$	8	3	3

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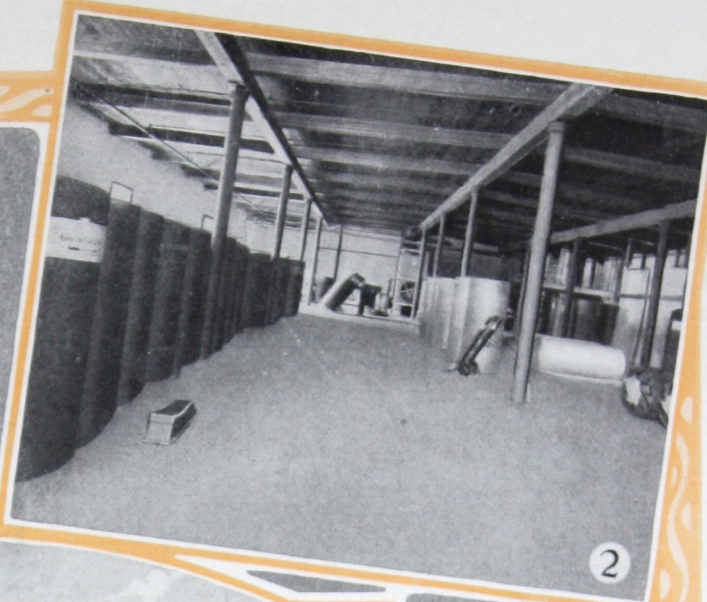
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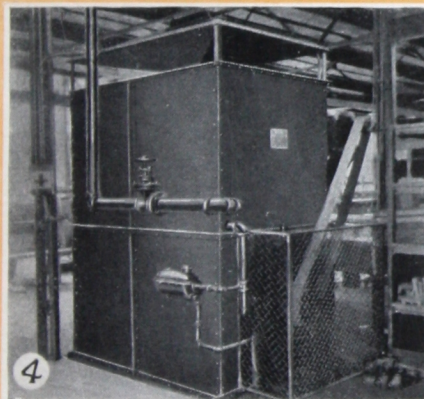


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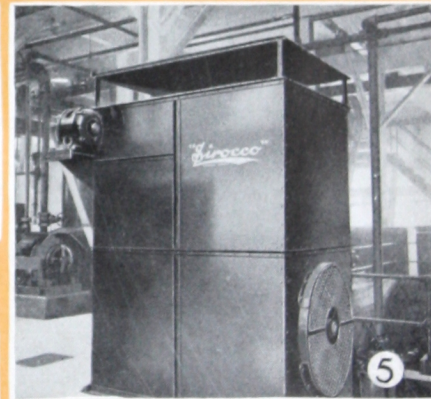
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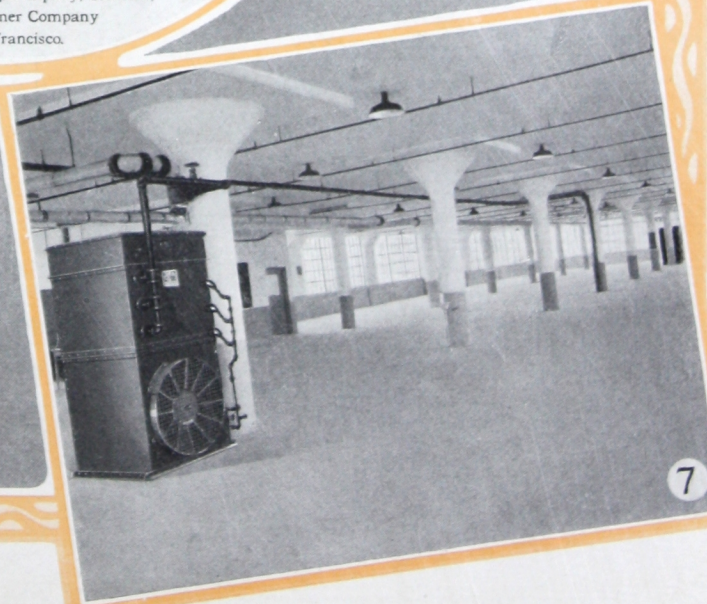
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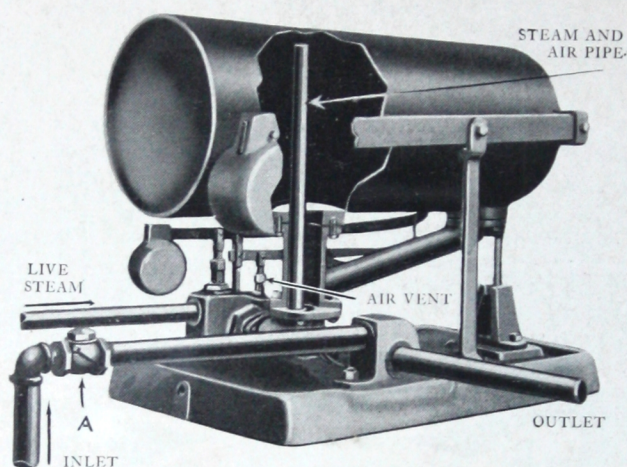
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PORTABLE HEATING UNITS

The several types of "A B C" Heating Units shown in the Bulletin will give an idea of our facilities for filling unit heater requirements. The type of heating unit can be furnished which is best suited to the conditions under which it is to be used.

THE "DETROIT" TRAP SYSTEM FOR PORTABLE HEATING UNITS

"DETROIT" Traps applied to "A B C" Heating Units effect a considerable saving in fuel, this being especially the case with the heating system operated under high pressure steam. The water of condensation from the heater is fed to the boiler by the trap at the same temperature at which it is condensed. In many installations the condensation is returned to the boiler at a temperature of 320 degrees Fahr. As every ten de-



"Detroit" Return Trap

grees raise in temperature of the boiler feed water means a one per cent reduction in the fuel bill, the saving is immediately apparent.

The use of "Detroit" Traps on "ABC" Heating Units always insures the heaters being

free of air and water, and, therefore, at their highest efficiency.

A catalogue, describing in detail the operation and construction of "Detroit" Traps, will be furnished upon request.

AMERICAN BLOWER COMPANY, DETROIT
BRANCH OFFICES IN ALL PRINCIPAL CITIES
CANADIAN SIROCCO COMPANY, LIMITED, WINDSOR, ONTARIO

American Blower

"Sirocco" VENTILATING, HEATING, AIR CONDITIONING, DRYING, MECHANICAL DRAFT
MANUFACTURERS OF ALL TYPES OF AIR HANDLING EQUIPMENT SINCE 1881